AWIPS SOFTWARE INSTALLATION INSTRUCTION NOTE 40
(for Electronic Systems Analysts)
Maintenance, Logistics, & Acquisition Division
W/OPS1: FJZ

SUBJECT : Maintenance Release OB1.2

PURPOSE : To provide installation instructions for Maintenance Release OB1.2

PATCH NUMBER : MROB12_SEC_A100370

AUTHORIZATION : The authority for this modification note is Request for Change AB466

AFFECTED SITES : All AWIPS sites must install this maintenance release.

VERIFICATION STATEMENT : The Maintenance Release OB1.2 installation procedures were tested and verified at NMTW (Silver Spring, MD), CHS (Charleston WFO, SC), ILN (Cincinnati WFO, OH), LUB (Lubbock WFO, TX), and TBW (Tampa WFO, FL).

PREINSTALLATION: REQUIREMENTS ROB1.1 must be installed.

EFFECT ON OTHER: INSTRUCTIONS File this note in EHB-13, Series II, section 3.1. Discard all previous software installation instructions, prior to Build OB1 (AWIPS Software Installation Instruction Note 37) in section 3.1.

TIME REQUIRED : Approximately 35 minutes for the maintenance release, 5 - 10 minutes for the radar localization script, 5-10 minutes for the push script, 20 - 60 minutes for TPC localization script, and 30 -120 minutes for the push script.

SECURITY LEVEL : root

TECHNICAL SUPPORT : For questions or problems regarding these installation instructions or installing this release, please contact the NCF at 301-713-9344**.**

A. MROB12 Patch Summary

1. Add TPC Hurricane Wind grids (DR# 12377 - FSL_A100341)
2. RadarServer is not filtering duplicate products in merged RPS list (DR# 12535 - FSL_A100342)
3. 4-panel radar time mismatching (DR# 12510 - FSL_A100343)
4. Distorted radar images on the LX box (DR# 12534 - FSL_A100344)
5. Sampling wind barbs in VWP Sounding causes IGC to hang (DR# 12450 - FSL_A100346)
6. LAPS changes for GOES12 13u channel (DR# 12454 - FSL_A100347)
7. Radar Audible Alarm - RDA condition not alarming (DR# 12536 - FSL_A100348)
8. notificationServer active sockets being closed (DR# 12538 - FSL_A100350)
9. Random PX reboot problem (DR# 12572 - NGIT_A100351)
10. LSR use of ^CFX tornado magnitude (DR# 12550 - MDL_A100355)
11. 8-bit reflectivity menu item (DR# 12557 - FSL_A100345)
12. Processes 'routerShefEncoder' and 'routerStoreNetcdf' using high CPU (DR# 11669 - SEC_A100363)

B. ROB12 Detailed Description

1. Add TPC Hurricane Wind grids (DR# 12377 - FSL_A100341).
   The TPC hurricane model surface wind grids need to be ingested and made available in AWIPS for GFE input.

2. RadarServer is not filtering duplicate products in merged RPS list (DR# 12535 - FSL_A100342) .
   The RadarServer is not filtering out duplicate products when merging the national and local RPS lists. This fix does not include the SRM products. Initial placeholder values for the upper and lower layer products that appear at the end of each line in the `/data/fxa/radar/lists/<RADAR>.current` RPS lists have been changed to reflect a '-1 -1' value. Duplicate products in RPS Lists not merged with a national list are also not being filtered out.

3. 4-panel radar time mismatching (DR# 12510 - FSL_A100343).
   OUN observed mismatched times on 4-panel combined product displays (e.g. Z/SRM or Z/V combos). About 30 percent of the 4-panels loaded, mixed current data with previous volume scan information.

4. Distorted radar images on the LX box (DR# 12534 - FSL_A100344).
   Occasionally a 0.5 reflectivity image is distorted on Linux platforms. The distortion is all echoes "collapse" toward the RDA; everything appeared to be on about the correct azimuth, but the range appeared closer. Identical images displayed on the HP platforms were fine.

5. Sampling wind barbs in VWP Sounding causes IGC to hang (DR# 12450 - FSL_A100346).
   When the forecaster samples wind barbs on the VWP Sounding and the bracket is not displayed, the IGC hangs. The only way to recover is to restart the pane from the menu.

6. LAPS changes for GOES12 13u channel (DR# 12454 - FSL_A100347).
   On sites that use the GOES12 satellite, the IR channels have changed from GOES8 to GOES12. The 12u channel has been replaced by a 13u channel and is on a coarser grid. The LAPS code cannot ingest the new data using the old code. The 13u data written into the 12u directory causes crashes when trying to read the files which have a different format. This problem is only relevant to GOES12/east-CONUS users.

7. Radar Audible Alarm - RDA condition not alarming (DR# 12536 - FSL_A100348).
   MPX observed their radar went down with a pedestal fault putting the radar into standby mode automatically. See DR# 12536 for additional details.

8. notificationServer active sockets being closed (DR# 12538 - FSL_A100350).
   During severe weather episodes several sites observed displays not performing auto-update. Site logs indicated the notificationServer had closed a socket to make room for another. The notificationServer closes the least used socket. The introduction of the LXs, as well as adding additional workstations, has aggravated this problem.

9. Random PX reboot problem (DR# 12572 - NGIT_A100351).
   Red Hat has recommended the installation of the latest cluster management and Advanced Server kernel patches for the PXs. The updates address PX hang/reboot conditions being experienced in the field..

10. LSR use of ^CFX tornado magnitude (DR# 12550 - MDL_A100355)
    The LSR GUI uses an F-scale of "FX" for the tornado event when the actual F scale is not yet known. Various users in the field have stated this is undesirable causing confusion to the NWS customers. When the F-scale of a tornado event is unknown, the LSR text product will not provide the F-scale magnitude.

11. 8-bit reflectivity menu item (DR# 12557 - FSL_A100345).
    There was no menu item for 8-bit Z/SRM. Z8/SRM8 combos have been added to the D2D menu.

12. Processes 'routerShefEncoder' and 'routerStoreNetcdf' using high CPU (DR# 11669 - SEC_A100363).
    The routerShefEncoder and routerStoreNetcdf caused performance issues on the DS. Excessive CPU time is used while processing products. Both processes decode data correctly according to logs. The problem has been observed at many AWIPS sites.

C. Pre-Installation Procedure

1. ROB1.1 must be installed.
2. Check http://www.ops1.nws.noaa.gov/awips_softwre.htm web page for a lessons learned document for this release.
3. Logout of all the D2D sessions on BOTH HP workstations and Linux platforms.
4. Logout of all the Text Workstations.
5. Note that PX1 and PX2 will each reboot during this installation.

This completes the pre-Installation procedure.

D. Maintenance Release Download and DS1 Installation Procedure

NOTE: NGIT has pushed all install related files to the `/data/local/ROB1.2` directory.

1. At a HP workstation, open a telnet window and log into ds1 as **root** by typing:

   `rlogin ds1-<site> -l root`

2. Change to the /data/local/ROB1.2 directory by typing:

   `cd /data/local/ROB1.2`

3. Create a script output log file by typing:

   `script -a ROB1.2.out`

4. Uncompress the release bundle by typing:

   `zcat ROB1.2.tar.Z | tar xvf -`

5. Run installation script by typing:

   `./installROB1.2`

6. Stop the output script by typing:

   `./stopscript`

This completes the maintenance release download and DS1 installation procedure

E. Post Installation Configuration Checkout Procedure

1. Check the `.out` file for any files that may not have been removed or copied correctly. Check for `cannot write: Text file busy`.

   `grep busy ROB1.2.out`

   If any files were not removed correctly, delete them manually.

2. Verify 'px1apps' is located on PX1 and 'px2apps' is located on PX2 by executing the "/sbin/clustat" command on either PX.

This completes the post installation configuration checkout procedure.

NOTE: 1. Users can login D2Ds and the workstations at this time.

2. Part F (Localization and Push Script Procedure) can be performed on another day. The procedure takes 1 to 3 hours to complete.

F. Localization and Push Script Procedure

1. Following the localization steps, users should log out of ALL sessions and back into their workstation. This enables the latest localization changes.

CRITICAL NOTE:

The ROB1.2 localization will overwrite the local RPS lists (i.e., *.storm and *.clear-air) in `/data/fxa/radar/lists` with those created from `/awips/fxa/data` (i.e., KXXX.storm and KXXX.clear-air). This is a result of the '-auxFiles' argument which does a copy/replace using the KXXX.storm and KXXX.clear-air RPS Lists in `ds:/awips/fxa/data` and replaces all '.storm' '.clear-air' RPS Lists in `ds:/data/fxa/radar/lists`. These are the default RPS Lists that are used when a radar changes VCP modes, and creates the '.current' RPS List. This is also where the national merge takes place between the .storm or .clear-air RPS List and the national RPS List in `/data/fxa/nationalData` ONLY for the radars that are doing national radar WAN reporting.

Prior to performing localization, perform the following procedure to preserve local radar lists.

1. For the sites with **one** dedicated TCP/IP connection, the workaround is as follows:

   As **root** from DS1, type:

   ```
   cd /data/fxa/radar/lists
   cp -p <RADAR>.storm /awips/fxa/data/KXXX.storm
   cp -p <RADAR>.clear-air /awips/fxa/data/KXXX.clear-air
   rcp -p <RADAR>.storm ds2:/awips/fxa/data/KXXX.storm
   rcp -p <RADAR>.clear-air ds2:/awips/fxa/data/KXXX.clear-air
   ```

   This will take the desired default RPS List and replace the KXXX RPS List in `/awips/fxa/data`. Any future -auxFiles localizations will recopy the contents of `/data/fxa/radar/lists`. Note, if the default RPS Lists in `/data/fxa/radar/lists` are changed, they must be copied to the appropriate KXXX RPS Lists in `/awips/fxa/data`. If this is not done, another -auxFiles will erase the changes in `/data/fxa/radar/lists`.

2. For sites with multiple dedicated radar connections (TCP/IP and x.25) the workaround is as follows:

   The site should put the TCP/IP (ORPGCommsMgr - the ones using a maximum product count of 65 in the `portInfo.txt`) connection RPS Lists in the `localization/SITE` directory as `<SITE>-<RADAR>.storm` and `<SITE>-<RADAR>.clear-air`. The -auxFiles will replace the RPS Lists in `/data/fxa/radar/lists` instead of the KXXX RPS Lists. Sites should not place the 8-bit radar data in to the X.25 dedicated radar RPS Lists, since this causes Narrowband load shedding.

2. To enable corrections for items #4 (Distorted radar images on LX) and #11 (8-bit reflectivity menu item), perform the following steps after the installation.

   a. On DS1, execute the following "forced" localization. (duration: 5 to 10 minutes)

```
su - fxa
cd /awips/fxa/data/localization/scripts
./mainScript.csh f -radar
exit
```

   b. Upon successful completion of the localization, execute the following "push" script. (duration: 5 to 10 minutes)

```
su - root
cd /data/local/ROB1.2
script -a push_localization_ROB1.2.out
./push_localization_ROB1.2
./stopscript
exit
```

3. Sites listed in attachment A should activate the TPC Hurricane Wind grids (item #1). Perform the following steps to activate those grids after the installation:

   a. On DS1, execute the following "forced" localization (duration: 20 to 60 minutes).

```
su - fxa
cd /awips/fxa/data/localization/scripts
./mainScript.csh f -grids -dataSups -auxFiles
exit
```

   b. Upon successful completion of the localization, execute the following "push" script (duration: 30 minutes to 2 hours).

```
su - root
cd /data/local/ROB1.2
script -a push_localization_ROB1.2.out
./push_localization_ROB1.2
./stopscript
exit
```

4. Users should log out and back into ALL of the workstation sessions at this time.

This completes the localization and push script procedure.

REPORTING MODIFICATION

Report the completed software installation using the Engineering Management Reporting System (EMRS) according to the instructions in the NWS Instruction 30-2104, Maintenance Documentation, Part 4, and Appendix F. A sample EMRS report is attached. As an additional guide, use the information in the table below.

Block #	Block Type	Information
5	Description	Install AWIPS Maintenance Release OB1.2 (patch # MROB12_SEC_A100370) I.A.W. AWIPS Software Installation Instruction Note 40
7	Equipment Code	AWIPS
8	Serial Number	001
15	Comments	Installed Maintenance Release OB1.2 (patch # MROB12_SEC_A100370) I.A.W. AWIPS Software Installation Instruction Note 40
17a	Mod. No.	S40

Signature Not Verified

Mark S. Paese

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Attachment A - List of Affected Sites
Attachment B - Sample EMRS Report

Attachment A - List of Affected Sites

List of Sites for TPC Hurricane Wind Grids

Eastern Region

AKQ (Wakefield, VA)
ALY (Albany, NY)
BGM (Binghamton, NY)
BOX (Taunton, MA)
BTV (Burlington, VT)
CAE (Columbia, SC)
CAR (Caribou, ME)
CHS (Charleston, SC)
CTP (State College, PA)
GSP (Greenville-Spartanburg, SC)
GYX (Gray, ME)
ILM (Wilmington, NC)
ILN (Wilmington, OH)
LWX (Sterling, VA)
MHX (Morehead City, NC)
OKX (Upton, NY)
PHI (Mt. Holly, NJ)
RAH (Raleigh, NC)
RNK (Blacksburg, VA)

Southern Region

AMA (Amarillo, TX)
BMX (Birmingham, AL)
BRO (Brownsville, TX)
CRP (Corpus Christi, TX)
EWX (Austin, San Antonio, TX)
EYX (Key West, FL)
FFC (Atlanta, GA)
FWD (Dallas/Fort Worth, TX)
HGX (Houston/Galveston, TX)
HUN (Huntsville, AL)
JAN (Jackson, MS)
JAX (Jacksonville, FL)
MRX (Knoxville/Tri-Cities, TN)
LCH (Lake Charles, LA)
LIX (New Orleans/Baton Rouge, LA)
LUB (Lubbock, TX)
LZK (Little Rock, AR)

MAF (Midland/Odessa, TX)
MEG (Memphis, TN)
MFL (Miami, FL)
MLB (Melbourne, FL)
MOB (Mobile, AL)
OHX (Nashville, TN)
OUN (Oklahoma City, OK)
SHV (Shreveport, LA)
SJT (San Angelo, TX)
SJU (San Juan, PR)
TAE (Tallahassee, FL)
TBW (Tampa Bay, FL)
TSA (Tulsa, OK)

Western Region

LOX (Los Angeles, CA)
SGX (San Diego, CA)

Attachment B - Sample EMRS Report